

CLAIMS

What is claimed is:

- 5 1. A organic light emitting diode (OLED) display consisting of a plurality of pixels, each pixel emitting light in one of a plurality of colors, comprising:
 - a lower electrode layer;
 - a photo-resist layer, said photo-resist layer fabricated 10 upon said lower electrode layer, said photo-resist layer patterned into a plurality of mushroom banks to define pockets upon said lower electrode layer, each pocket defining the active region of each of said pixels;
 - a plurality of polymer layers, said polymer layers formed 15 by dropping a liquid substance into each of said defined pockets and allowing said substance to dry therein; and
 - an upper electrode layer patterned above said polymer layers, said upper and lower electrode layers conducting electrical energy to said polymer layers causing at least one 20 of said polymer layers to emit light thereby.

2. A display according to claim 1 wherein said mushroom banks overhang a portion of the lower electrode layer.

25 3. A display according to claim 2 wherein said liquid substance includes at least partially organic materials.

4. A display according to claim 2 wherein said polymer layers include:

a conducting polymer layer which aid in the transport of
5 electrical energy; and

a emitting polymer layer emitting light in one of said colors upon activation by said electrical energy.

5. A display according to claim 4 wherein said colors
10 includes white, red, green and blue colors.

6. A display according to claim 5 wherein configuration of the mushroom banks is varied in accordance with the properties of the substance to be deposited in each pocket.

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7. A display according to claim 1 wherein the configuration of said mushroom banks is trapezoidal.

8. A display according to claim 1 wherein said substance when dried has a substantially flat and
20 substantially uniform profile.

9. A display according to claim 1 wherein the configuration of the mushroom banks is T-shaped.

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10. A display according to claim 1 wherein the configuration of said mushroom banks is such that the walls of the mushroom banks are curved.

5 11. A display according to claim 4 wherein said lower electrode layer is an anode layer and said upper electrode layer is a cathode layer.

10 12. A display according to claim 1 wherein the configuration of mushroom banks includes a plurality of different shapes coalesced together.

15 13. A method of fabricating an organic electronic device, said method comprising:
 patterning a lower conducting layer upon a substrate;
 fabricating a photo-resist layer upon said lower electrode layer, said photo-resist layer patterned into a plurality of mushroom banks to define pockets upon said lower electrode layer, each pocket defining the active region of each of said pixels; and
 depositing at least one liquid substance into each said pocket, said liquid substance allowed to dry into layers composed of organic materials.

14. A method according to claim 13 wherein said mushroom banks overhang a portion of said lower conducting layer.

15. A method according to claim 13 wherein said organic
5 electronic device is an organic light emitting diode (OLED)
display.

16. A method according to claim 15 wherein each said pocket defines a pixel of said display.

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17. A method according to claim 16 wherein said liquid substance includes an emissive polymer, said emissive polymer emitting light upon application of electrical energy thereto, said layers including thereby an emissive polymer layer.

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18. A method according to claim 17 further comprising:
fabricating an upper conducting layer above said dried film layers, said upper conducting layer and said lower conducting layer conducting electrical energy to said emissive polymer
20 layer.

19. A method according to claim 18 wherein said at least one liquid substance also includes an additional conducting polymer, said conducting polymer substance allowed to dry into
25 a conducting polymer layer, said conducting polymer layer an

additional layer of said layers of organic materials and disposed upon said emissive polymer layer.

20. A method according to claim 13 wherein the
5 configuration of said mushroom banks is trapezoidal.

21. A method according to claim 13 wherein said substance when dried has a substantially flat and substantially uniform profile.

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22. A method according to claim 13 wherein the configuration of the mushroom banks is T-shaped.

23. A display according to claim 13 wherein the
15 configuration of said mushroom banks is such that the walls of the mushroom banks are curved.

24. A method according to claim 13 wherein said patterning of mushroom banks is performed using lithographic
20 processes.

25. A method according to claim 13 wherein the configuration of mushroom banks includes a plurality of different shapes coalesced together.

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